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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/476,622	12/31/1999	Howard Chin	884.101US1	8079

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EXAMINER	
TREAT, WILLIAM M	

ART UNIT	PAPER NUMBER
2183	19

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/476,622	CHIN ET AL.	
	Examiner	Art Unit	
	William M. Treat	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10 and 21-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10 and 21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. Claims 10 and 21-40 are presented for examination.

2. Applicants' successful petition results in the examiner's previous action being vacated. Since applicants amendments have not been deemed restrictable, the examiner has entered all amendments prior to this date resulting in all claims being amended.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraogawa (Patent No. 4,131,943).

6. Shiraogawa taught the invention substantially as claimed in claim 10 including executing, by the processor, the programmed code (col. 2, line 30 through col. 3, line 8) and controlling one or more functions of the processor in response to executing the programmed code, wherein one or more functions are controlled by updating at least one machine specific register associated

with a logic unit of the processor(col. 3, lines 9-30) and by directly triggering hardware on the processor in response to executing the programmed code (col. 6, line 4 through col. 8, line 10).

7. Shiraogawa did not specifically mention storing his macroinstruction (col. 2, lines 33-36). programs in an external, computer-readable medium. However, the examiner takes Official Notice of the fact that storage of macroinstruction/machine-instruction programs in external media is well known in the art. One of ordinary skill is motivated to store such programs externally to conserve valuable internal chip real estate.

8. As to claim 38, it differs from claim 10 only in its mention of at least two machine specific registers (col. 3, lines 11-30) and at least one being updated as a result of executing a microcode instruction (taught by Shiraogawa at col. 26, lines 26-30). One should also notice that completion of a microinstruction results in the PSW register being updated and in a new control word being read from the DROM to update the control register (col. 2, line 50 through col. 3, line 30).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 10, 21, 23-34, and 38-40 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Mahalingaiah et al. (Patent No. 6,141,740) and Witt (Patent No. 5,623,619).

11. Based on applicants strong arguments that a register associated with a functional unit is a machine specific register the examiner is interpreting the registers inherent in the reservation

stations (22), the registers inherent in the reorder buffer (32), etc. as machine specific registers as well as the patch data registers (col. 16, lines 49-60). Witt, which is incorporated by reference in Mahalingaiah, accounts for the presence of a cache line valid bit (col. 8, lines 23-37) in Mahalingaiah.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 21-22 and 35-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dao et al. (Patent No. 4,928,223).

14. Based on applicants strong arguments that a register associated with a functional unit is a machine specific register the examiner is interpreting the registers such as the exponent registers (150), instruction register (106), nano instruction registers (3038, 3040), status word register (Fig. 17), control word register (Fig. 18), etc. as machine specific registers.

15. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dao et al. (Patent No. 4,928,223).

16. Dao taught the invention of claim 35 (paragraphs 13-14, *supra*) from which claim 37 depends. Also, while Dao taught external microcode and even the importance of being able to modify the external microcode, he did not specifically teach the processor modifying the microcode in firmware nor did applicant's original diclosure for that matter. Dao taught modification of the code in RAM. However, the examiner takes Official Notice of the fact that firmware storage that is readily modifiable by a processor was prevalent at the time of

applicants' invention. Dao would have been motivated to use it to store and revise his microcode because it is readily modifiable given the frequency with which one typically modifies microcode but is also relatively secure from tampering by the incompetent.

17. Claim 37 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' claim 37 now claims the processor modifies the external microcode firmware where previously the firmware was only modified without the agent of change being identified. While the examiner might readily acknowledge any idiot in the art might have the knowledge and motivation to use the processor and something like EEPROM to modify the external microcode, this has never been part of applicants' written disclosure prior to this time and constitutes new matter.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication should be directed to William M. Treat at telephone number 703 305 9699. The examiner works at home on Fridays but may normally be reached on Fridays by leaving a voice message using his office phone number. The examiner also works a flexible schedule but may normally be reached in the afternoon and evening on three of the four remaining weekdays.

WILLIAM M. TREAT
PRIMARY EXAMINER